8. Transportation Planning, Routing, and Tracking

8.1 Who participated in transportation planning for shipments of foreign research reactor spent fuel to INEEL and the Savannah River Site?

INEEL and the Savannah River Site each were responsible for preparing a transportation plan covering shipments of foreign research reactor spent fuel to their respective locations. These site-specific plans contain information about routing, shipment mode, shipment tracking, security, key information contacts, and emergency preparedness procedures. The plans also include information about the operational roles and responsibilities of DOE; the carrier; state, local, and tribal officials; and other agencies.

Members of the working groups that developed the plans included state, tribal, and regional organizations (e.g., the Southern States Energy Board, the Western Governors' Association, and the Council of State Governments); federal agencies and departments, such as NRC, DOT (including the Coast Guard and the Federal Railroad Administration), the Department of the Navy, and the Environmental Protection Agency; state and local officials whose jurisdictions are directly affected by the shipments; shipping agents; and port authorities. To ensure that the plans were consistent with one another and with the most recent policy guidance, both sites coordinated with one another and with DOE headquarters as the plans were developed.

DOE also conducted assessments to determine whether local emergency responders (hazardous materials teams, firefighters, law enforcement units) required additional capabilities—training or equipment—to respond adequately to potential emergencies associated with shipments of foreign research reactor spent fuel. Based on the specific needs indicated, DOE provided localities with additional training, such as first-responder courses, or equipment, such as radiation detectors. After receiving the additional training or equipment, state, tribal, or local officials convene to validate their readiness to respond appropriately in the event of an incident.

8.2 How are truck and rail shipment routes for foreign research reactor spent fuel selected?

For highway shipments of spent fuel, DOT regulations require that carriers follow "preferred routing" requirements. Preferred routes, which are either interstate highways or designated alternate routes, avoid population centers and use well-maintained roads. States and tribes may designate alternate routes that follow DOT routing guidelines. If they do so, they must consult with affected local jurisdictions and neighboring states to ensure that all safety factors have been considered and that the alternate route connects with DOT-preferred routes at state borders. As part of the multiparty transportation-planning process, DOE consults with the carrier and state, tribal, and local governments about shipping routes to be used.

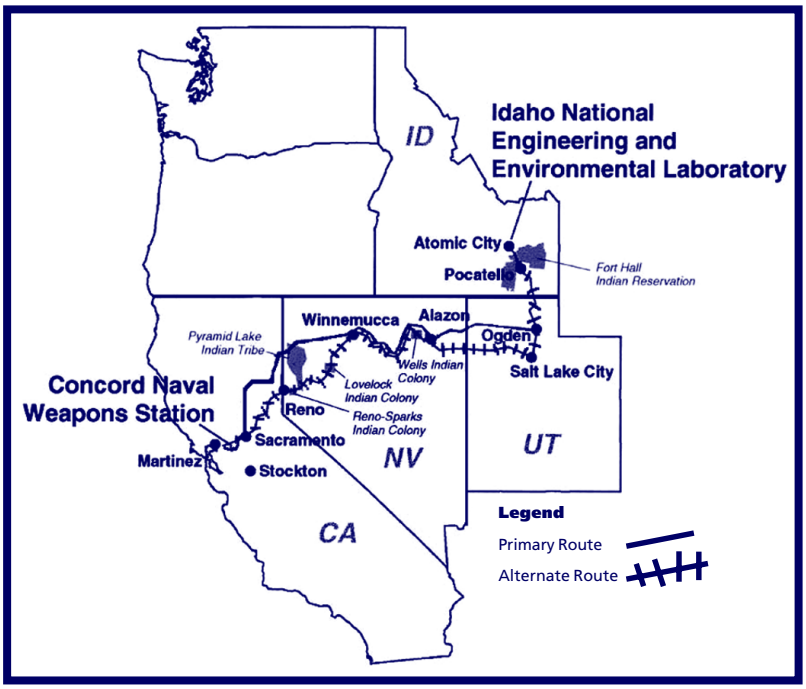
Highway carriers of spent fuel must prepare a written route plan that shows the origin and destination of the shipment, the scheduled route, all planned stops, estimated times of departure and arrival, and telephone numbers of state emergency personnel.

DOT regulations do not cover selection of routes for rail shipments of foreign research reactor spent fuel. Shippers generally select the most direct rail route, taking into account such considerations as track conditions, weather, and security.

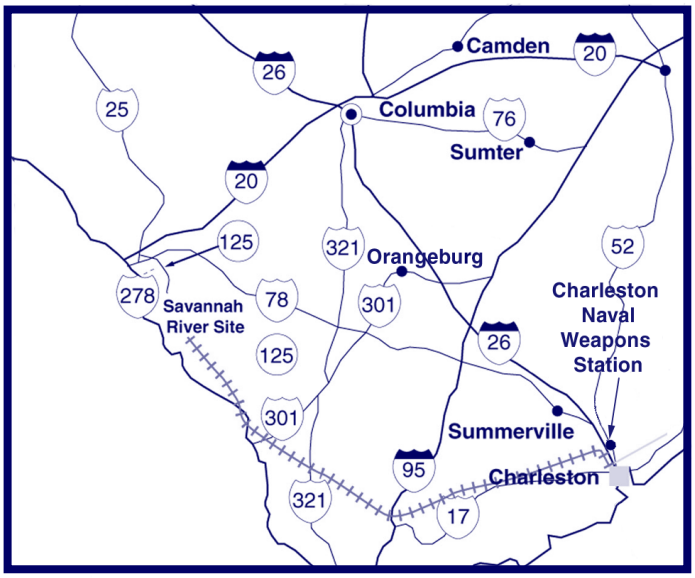
The final step in selecting both rail and truck routes for shipments of foreign research reactor spent fuel is NRC review and approval of route plans. During the review, NRC examines both a primary route and an alternate route. The outcome of the review, which is conducted for security purposes, is either formal NRC approval of the route or suggestions for alternate routes.

8.3 Which routes do trains take from the Concord Naval Weapons Station to INEEL and from the Charleston Naval Weapons Station to the Savannah River Site?

The following maps show the rail routes from the Concord Naval Weapons Station to INEEL and from the Charleston Naval Weapons Station to the Savannah River Site.



Rail routes from the Concord Naval Weapons Station to the Idaho National Engineering and Environmental Laboratory



Rail route from the Charleston Naval Weapons Station to the Savannah River Site

8.4 Which route will trucks or trains follow that carry TRIGA spent fuel from the Savannah River Site to INEEL?

The cross-country route from the Savannah River Site to INEEL has not yet been determined. DOE tentatively plans to make the first cross-country shipment of TRIGA foreign research reactor spent fuel in summer 1999.

8.5 Which routes do trucks or trains carrying foreign research reactor spent fuel from Canada use?

One shipment of research reactor spent fuel from Canada entered the United States in December 1996. That shipment originated at McMaster University in Hamilton, Ontario, and traveled by truck to the Savannah River Site, passing through New York, Pennsylvania, West Virginia, Virginia, North Carolina, and South Carolina.

Future shipments from Canada have not been planned at this time. If additional shipments from Canada do occur, they will originate at different sites, and their shipping routes will vary accordingly.

8.6 Are shipments of foreign research reactor spent fuel tracked as they travel to INEEL or the Savannah River Site?

Within the continental United States, DOE uses its Transportation Tracking and Communication System, known as TRANSCOM, to track and communicate with all rail and truck shipments of spent nuclear fuel (including foreign research reactor spent fuel), high-level radioactive waste, and certain other hazardous shipments.

TRANSCOM, which has a 24-hour control center in Oak Ridge, Tennessee, uses a satellite positioning-reporting system and communications equipment to track shipments from start to end. Information about vehicle location is relayed at periodic intervals to the TRANSCOM central computer in Oak Ridge, which generates maps that show the shipment location. In case of an emergency, the operator of the shipment vehicle can contact the TRANSCOM control center via TRANSCOM or using other two-way communications equipment. If necessary, TRANSCOM will notify DOE.

Commercial rail and truck carriers also maintain their own tracking systems. DOE has access to these systems.

8.7 Who has access to TRANSCOM information?

TRANSCOM users include authorized personnel from DOE, other federal agencies, and appropriate state and tribal governments. Authorized users have TRANSCOM software that allows them to access information on shipment schedules, planned routes, types of materials being transported, and emergency response contacts.

A Guide to

Foreign Research Reactor Spent Fuel